

# Food

## Liquefied Nitrous Oxide



### NITROUS OXIDE:

Nitrogen oxide is a cryogenic gas with multiple applications both in the food industry, as a propellant, and in healthcare due to its anesthetic effect.

Due to being an oxidizing gas with a narcotic effect, it must be used with caution. This gas has a low critical temperature and high pressure when packaged. It is liquefied at cryogenic temperature for the storage and transport of large volumes.

#### Chemical Name:

Nitrous oxide

#### CAS Number:

10024-97-21



#### Technical Characteristics:

- > Cryogenic gas
- > Gas packaged in high-pressure containers with gas-phase valve
- > Characteristic smell
- > Narcotic effect
- > Soluble with fats and suitable for the food industry

#### Packaging:

- Cylinder
- Cylinder blocks
- Container - Tank

#### Applications:



Propellant in food (spray cream or siphon to make foam).



Anesthetic gas



Combustible

## Table of Properties:

Molecular Weight	28.05	g/mol
Boiling point	-88.47	°C
Latent heat of vaporization at boiling point	374.286	kJ/kg
Liquid density at boiling point	1230.458	kg/m <sup>3</sup>
Cp (specific heat at constant pressure)	8.73E-01	kJ/kg K
Cv (specific heat at constant volume)	6.80E-01	kJ/kg K
Specific Gravity	1.53	
Thermal conductivity	19.099	mW/m.K
Solubility in water	5.932E-4	mol/mol
Steam pressure	45.92	bar

## Material Compatibility:

### Metals

Aluminum	Satisfactory
Brass	Satisfactory
Monel	Satisfactory
Copper	Satisfactory
Ferritic steel	Satisfactory
Stainless steel	Satisfactory
Zinc	Satisfactory
Titanium	No data

### Plastics

Polytetrafluoroethylene	Satisfactory
Polychlorotrifluoroethylene	Satisfactory
Polyvinylidene fluoride	Satisfactory
Polyvinyl chloride	Satisfactory
Ethylene tetrafluoroethylene	Satisfactory
Polycarbonate	No data
Polyamide	Satisfactory
Polypropylene	Satisfactory

## Elastomers

Butyl (isobutene-isoprene) rubber	Not recommended
Nitrile rubber NBR	Not recommended
Chloroprene	Not recommended
Chlorofluorocarbons	Not recommended
Silicone	Satisfactory
Perfluoroelastomers	No data
Fluoroelastomers	Satisfactory
Neoprene	Satisfactory
Polyurethane	Satisfactory
Ethylene-Propylene	Not recommended

## Lubricants

Mineral	Not recommended
Fluorocarbon base	Satisfactory

### More Information:

If you want more information about our products, contact us.

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